# U.S. Census Bureau's FY 2015 **Budget Estimates** As Presented to Congress March 2014

**Potential Return on Investment**

The Census Bureau will finalize major design decisions by the end of FY 2015, and will then publish a lifecycle cost estimate for the 2020 Census reflecting those major decisions. But to inform decision making prior these major design decisions, the Census Bureau has revised its 2020 Census lifecycle cost estimates. In 2011, the Census Bureau prepared rough order of magnitude (ROM) estimates for the 2020 Census lifecycle cost. In developing the FY 2015 budget request, the Census Bureau revised components of these lifecycle cost estimates. We are now able to provide preliminary revisions of these estimates because we have completed some research on the cost implications of certain alternative design features.

As a result, we now are able to better quantify some of the inputs to the estimates, but because we expect significantly more data to come from planned tests in FY 2014 and FY 2015, and because the research will further mature the design options along with their assumptions, the estimates are presented as ranges to reflect remaining uncertainty in the program. Once key design decisions are made at the end of FY 2015, the Census Bureau will publish overall baselined lifecycle cost estimates for the 2020 Census program that reflect those decisions. Also, we will continue to refine and narrow the ranges around these estimates beyond FY 2015 as we become more certain of the 2020 Census design and the prevailing economic and policy conditions likely to surround that census.

Fiscal Year 2015 is a critical year for conducting research about the feasibility and likely cost savings of design changes that can fundamentally change the way the 2020 Census is conducted so as to significantly contain its costs while still producing high quality data. The funding requested for FY 2015 is needed to implement this critical research leading up to key design decisions for the 2020 Census that must be made by the end of FY 2015. Estimates developed to date suggest that these innovations can reduce the lifecycle cost of the 2020 Census by up to $5.1 billion while maintaining the ability to produce high quality data. Without this funding and research, we cannot realize the potential savings for the 2020 Census program. FY 2015 also is the year we will begin development of key systems and operations to support the 2020 Census. Without sufficient FY 2015 funding for these efforts, our implementation efforts—and thus the 2020 Census itself—are at risk of operational failure.

In constructing these revised cost estimates, we used final actual data from the 2010 Census, and data from the 2020 Census research conducted to date, wherever possible to develop our input parameters. In areas where critical research results are still pending, we relied on subject matter experts at the Census Bureau. We then used sensitivity analysis to provide ranges of uncertainty around these cost estimates. The Census Bureau uses the Monte Carlo simulation method, which is considered a common and recommended practice by both the Government Accountability Office (GAO) and the International Cost Estimation and Analysis Association (ICEAA). For the chart and table below, we used a common practice of presenting Monte Carlo outputs at the 80$^{th}$ percentile level, which translates to an 80% probability that funding at this level will be adequate to conduct the census.

The information below presents a range of estimated lifecycle cost savings for each of nine categories. Each category represents a census program area where we are researching design

changes focused on cost savings for the 2020 Census. The categories are defined below, along with estimated ranges of cost savings for each based on 50% and 80% probabilities of adequate funding.

• **Targeted Address Canvassing** – In the 2010 Census, the Census Bureau mounted a substantial operation late in the decade to update the Master Address File (MAF) and the associated mapping system we call TIGER. During address canvassing, field staff walked almost every street in the Nation to ensure that we captured every housing unit in the correct geography. This was one of the more expensive components of the census. For the 2020 Census, we believe updating the MAF/TIGER system continually throughout the decade, and other research, will enable us to reduce overall costs by allowing us to target this updating to a subset of areas that are experiencing change. *[Estimated savings range from $990 million to $1,530 million].*

• **Field Reengineering Related to Address Canvassing** – For the 2010 Census, we had to open 150 temporary census offices, and hire over 155,000 temporary workers to conduct the address canvassing operation. Depending on our ability to target this work for the 2020 Census, we can consider several models, ranging from the most expensive (with large number of local census offices supporting a large staff of interviewers) to the least expensive (with a relatively small number of field offices supporting a limited field staff). *[Estimated savings range from $50 million to $590 million].*

• **Optimizing Self Response** – Traditional procedures that offer the public opportunities to provide us with their data, followed by in person interviews with households that do not respond to the census, are inefficient, and this field work has been the most expensive component of past censuses. Efforts to control costs must include significant innovations in the ways we ask the public to respond to the census in the first place. We have to research and then implement response options for the census that reflect the communications environment in which people will live in 2020. These include using mail, telephone, internet, face-to-face interviews, and other electronic response options that may emerge, to ensure that diverse subgroups of the population, including those that speak languages other than English, have every opportunity to submit their information in any easy and cost effective way. *[Estimated savings range from $550 million to $1,090 million].*

• **Using Administrative Records to Remove Vacants from Non-Response Follow-Up (NRFU) Workload** – Using information already provided to the government to avoid making personal field visits to discover vacant units for which no questionnaire was, or could be, returned. *[Estimated savings range from $810 million to $1,090 million].*

• **Field Reengineering Related to NRFU Training, Supervisory Ratios** – Given the number of temporary workers hired for previous censuses, changing how we conduct nonresponse followup training, and changing how we organize the supervisory structure for field operations, offer potential sources of major savings. *[Estimated savings range from $550 million to $980 million].*

• **Field Reengineering Related to NRFU Automation/No Paper** – Again, given the number of temporary workers needed to make personal visits to non-responding addresses, significant cost savings can be realized through increased efficiency of our field staff by using automation, case routing, and other techniques. *[Estimated savings range from $960 million to $1,340 million].*

• **Field Reengineering Related to Local Census Office Space and Staff** – By automating payroll, recruiting, and other HR functions so as to reduce the need for paper forms and data entry, we can reduce the number of office staff and the size of our temporary census offices. *[Estimated savings range from $480 million to $850 million].*

• **NRFU Reengineering Related to Admin Records, Adaptive Design** – Using information already provided to the government (e.g., administrative records), and making our field procedures and workload management more dynamic and real-time, we can reduced costs by increasing enumerator productivity. [*Estimated savings range from $650 million to $920 million].*

• **Eliminating Coverage Follow-Up and Vacant Delete operations using Administrative Records** – Again, through the use of field automation, and using information already provided to the government, we may be able to avoid the expensive data collection components of these operations. *[Estimated savings range from $120 million to $370 million].*

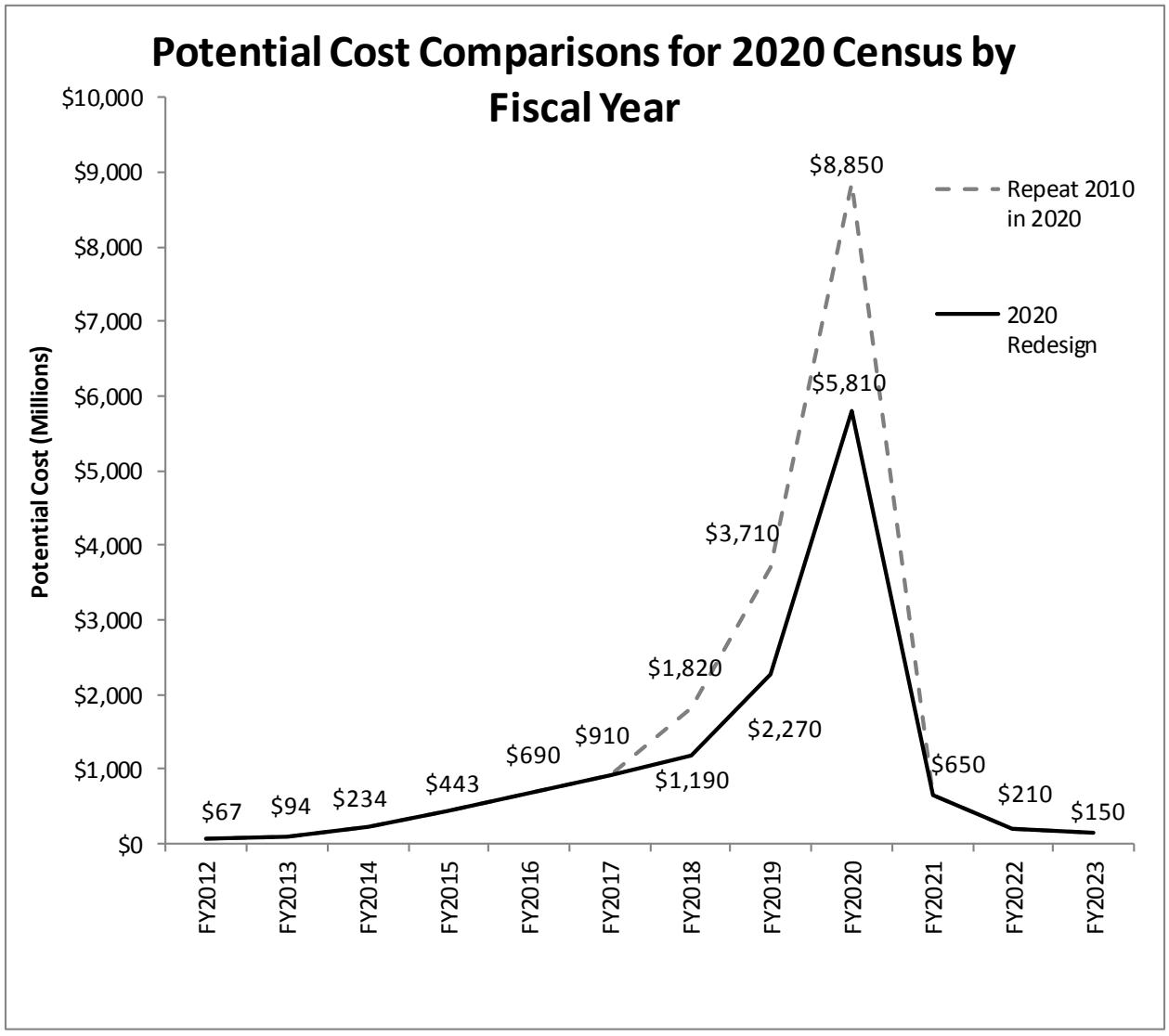
The savings above show the ranges of savings for each category, in successive order, building on the impact of the previous categories. Because of this interdependency, these savings ranges need to be viewed as connected efforts and not a list of options; one cannot simply segregate or eliminate a category to come to a different savings estimate.

Table 1: 2020 Decennial Census Potential Cost Savings by Fiscal Year at 80 Percent Monte Carlo Level

| | Potential Cost of Repeating the 2010 Census Design in 2020 (80% Monte Carlo Estimate) | Potential Cost of the 2020 Census after Design Changes (80% Monte Carlo Estimate) | Potential Cost Savings |
|---|---|---|---|
| **Total** | $17,830 million | $12,720 million | -$5,110 million |
| **FY 2012 (enacted)** | $66.6 million | $66.6 million | |
| **FY 2013 (enacted)** | $94.2 million | $94.2 million | |
| **FY 2014 (enacted)** | $233.7 million | $233.7 million | |
| **FY 2015 (President's request)** | $443.2 million | $443.2 million | |
| **FY 2016 est.** | $690 million | $690 million | |
| **FY 2017 est.** | $910 million | $910 million | |
| **FY 2018 est.** | $1,820 million | $1,190 million | -$630 million |
| **FY 2019 est.** | $3,710 million | $2,270 million | -$1,440 million |
| **FY 2020 est.** | $8,850 million | $5,810 million | -$3,040 million |
| **FY 2021 est.** | $650 million | $650 million | |
| **FY 2022 est.** | $210 million | $210 million | |
| **FY 2023 est.** | $150 million | $150 million | |

Note: Totals may not add due to rounding. These numbers are model-driven, and the 2020 Redesign estimates for FY 2016 through FY 2023 are based on current assumptions and projections, and are subject to change.

**Chart 1:**




Note: Totals may not add due to rounding. These numbers are model-driven. The 2020 Redesign estimates for FY 2016 through FY 2023 are based on current assumptions and projections, and are subject to change. For the chart above, the point estimates represent the 80th percentile level in the Monte Carlo simulations performed for this analysis. This represents the estimated value that will equal or exceed the true cost with 80 percent certainty. The differences between the two numbers reflect the potential savings at that 80 percent certainty level.